AIRCUITY®

OptiNet™

Energy Savings, Safety, and Comfort for Today's Smart Buildings

OptiNet™
The Only Powerful Yet Affordable Solution For Healthy, Energy-Efficient Ventilation Control.

How can you reduce a building's energy consumption without sacrificing its occupants' comfort, safety, and productivity? That's among the greatest challenges confronting the commercial building industry today.

A Remarkably Affordable Solution

OptiNet's award-winning technology cost-effectively reduces a facility's number one operating expense — energy — while simultaneously improving the building's indoor environmental quality (IEQ). The system is a facility manager's ally in optimizing operating performance and controlling lifecycle costs.

OptiNet delivers on the long-sought promise of buildings designed for both energy efficiency and environmental quality. The result is reliable, cost-effective ventilation control that responds to dynamic building conditions, cutting energy costs without sacrificing occupant comfort, health, or productivity.

Bank of America Tower, New York City — World's Greenest Skyscraper

"The continuous evaluation of indoor air quality made possible by the OptiNet system represents a significant step forward in creating a healthier, energy-efficient environment for our tenants, providing The Durst Organization with a competitive edge in the marketplace."

— Jody Durst, Co-President
The Durst Organization

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SIGNIFICANT ENERGY SAVINGS IN OFFICE BUILDINGS, HEALTHCARE AND ACADEMIC FACILITIES, AND LABORATORIES.

Save Energy Costs with Demand Control Ventilation

The concept of demand control ventilation (DCV) offers a simple solution. DCV modulates the amount of outside air used in a facility in proportion to its occupancy – typically based on monitoring carbon dioxide (CO_2) levels. However, conventional DCV approaches have fallen short due to an inability to also sense additional indoor air quality parameters in concert with the CO_2 levels. When deployed, the result is costly, overly complex control systems with expensive calibration and maintenance costs.

OptiNet's architecture changes the whole game. Its remote sampling with centralized sensing overcomes these obstacles, and more.

Result: truly optimized, cost-effective ventilation control that delivers on long-sought promises. With OptiNet next-generation DCV, you get truly intelligent buildings designed for energy efficiency and environmental quality.

Make a Difference in Energy Savings With Truly Differential Economizer Control

Standard dry bulb, temperature-based economizers can't compensate for the effect of moisture on energy consumption. But OptiNet samples both the temperature and moisture content of return air and outside air. You get a true gauge of the energy content (enthalpy) of the air.

This differential enthalpy maximizes available free cooling. It lets your system determine the best possible cooling effect — and lower operating costs. Plus OptiNet's shared sensor platform eliminates differential sensor errors that often cause problems for traditional multiple-sensor schemes.

Ideal for Laboratories and Vivariums

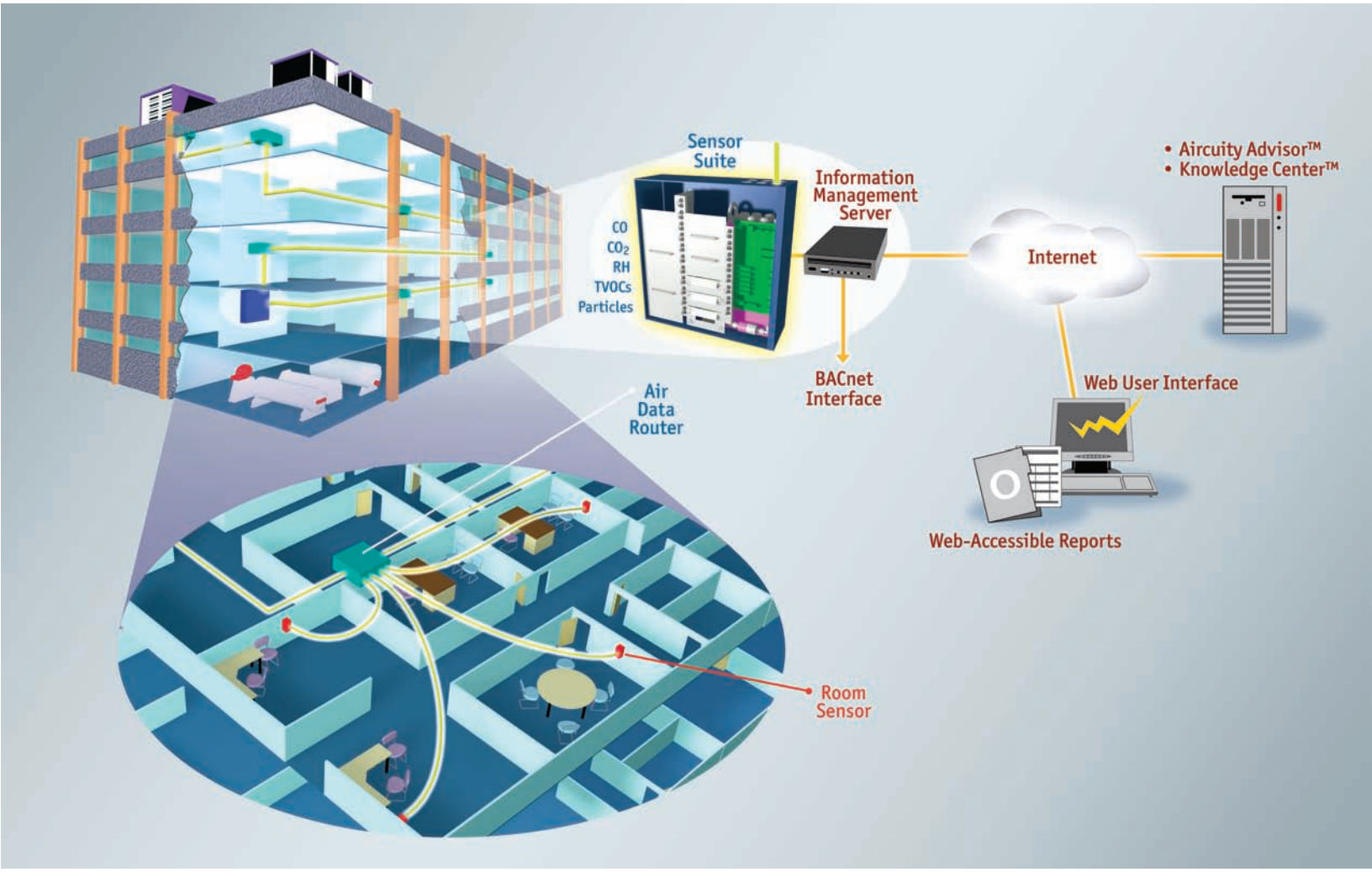
Modern research laboratories operate with fewer fume hoods, rely more on computational chemistry, and have lower thermal needs due to reduced plug loads. Additionally, today's vivariums use ventilated cage racks and enclosed workspaces. As a result, the minimum ventilation (dilution) air change rate is now often the dominant factor for determining supply and exhaust air flow volumes in laboratories.

However, under normal operating conditions, room air is typically clean, and a lower ventilation air change rate would be acceptable. Diluting clean room air with clean supply air achieves no benefit and wastes significant amounts of energy.

OptiNet levels the playing field by dynamically reducing air change rates when the air is clean — saving vast amounts of energy, but dynamically raising the rates during those occasional times when a spill or release occurs. You get safety *and* savings!

FACILITY-WIDE VENTILATION CONTROL THAT'S COST-EFFECTIVE, ACCURATE, AND RELIABLE.

The OptiNet System



OPTINET'S CENTRALIZED SENSING ARCHITECTURE PROVIDES CONTINUOUS MEASUREMENT OF A HOST OF INDOOR AIR PARAMETERS. DATA IS INTEGRATED WITH THE BUILDING MANAGEMENT SYSTEM TO OPTIMIZE VENTILATION, OR ACCESSED THROUGH AIRCUITY'S WEB-BASED KNOWLEDGE CENTER.

VALIDATION OF SUSTAINABLE BUILDING PERFORMANCE.

Invest in Improvements That Take the LEED®

Whether you're interested in the design, construction, or ownership of sustainable buildings, indoor environmental knowledge is a critical tool for optimizing performance.

OptiNet facilitates improved energy performance and indoor environmental quality. These improvements are the essence of initiatives such as Leadership in Energy and Environmental Design (LEED®). So OptiNet can help smart building designers directly generate LEED credits in multiple categories:

- Indoor Environmental Quality (IEQ)
- Energy and Atmosphere
- Innovation and Design

Of course, success in these categories also helps OptiNet users reduce building first costs as well as overall lifecycle costs.

Finally, OptiNet contributes to measurement and documentation of building environmental parameters. It proves that a building designed to be green in fact operates as intended — thus validating sustainable building performance.

Photo courtesy of Conservation Design Forum, Elmhurst, IL

Photo courtesy of Conservation Design Forum, Elmhurst, IL

The OptiNet system is ideal for a broad range of commercial buildings where energy savings and enhanced indoor environmental quality are important. Apply it in just about any building that uses outside air, including:

- Offices
- Laboratories/vivariums
- Healthcare facilities
- Schools, colleges, & universities
- Museums
- Convention centers
- Sports arenas
- Auditoriums

2006 R&D Technology Award Winner

About Aircuity

Aircuity is the leading manufacturer of integrated sensing and control solutions that cost-effectively reduce building energy and operating expenses while simultaneously improving indoor environmental quality. Aircuity's goal is to optimize building ventilation for energy-efficient performance without sacrificing occupant comfort, health, or productivity.

The company's systems are suitable for a broad range of commercial building applications where energy efficiency and enhanced indoor environmental quality are important, including offices, laboratories, hospitals, educational institutions, museums, convention centers, and sports arenas.

U.S. GREEN BUILDING COUNCIL MEMBER

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